

REMARKS

Claims 2-5, 8-31 and 34-37 are pending in the present application. Claims 2-5, 8-31 and 34-37 are rejected. No claims are cancelled, added, or amended in this response. Accordingly, claims 2-5, 8-31 and 34-37 are currently under consideration.

With respect to any arguments, claim amendments or cancellations, Applicants have not dedicated to the public or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants expressly reserve the right to pursue prosecution of any presently excluded subject matter or claim embodiments in one or more future continuation and/or divisional application(s).

Claim Rejections Under 35 U.S.C. § 103

Claims 2-5, 8-10, 22, 29-30 and 34-37 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Robinson (US Patent Pub. No. 2003/0100752) in combination with Drummond (Annals of New York Academy of Sciences, 1987, 514, 87-95) and Bettelheim et al. (General, Organic and Biochemistry, 1998, page 596). Claims 11-20 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Niedballa et al. (US 5,275,801).

Applicants appreciate the Examiner's careful consideration of the arguments in the previous response, and the detailed description of the rejection in the Office Action mailed September 10, 2007.

The Examiner stated that "even though Robinson's teaching reads on millions of compounds, the secondary references, Drummond and Bettelheim suggest to one of skill in the art that tin mesoporphyrins complexed to amino acids is the best choice from the genus of Robinson. Hence there is a suggestion and motivation to combine."¹ The Applicants respectfully disagree with this statement.

The Drummond reference describes protoporphyrins, and never mentions mesoporphyrins or amino acids. It is unclear how one can combine a reference that discusses protoporphyrins (Drummond), a reference that discusses amino acids (Bettelheim), and a reference

¹ See page 5, second paragraph of the September 10, 2007 Office Action.

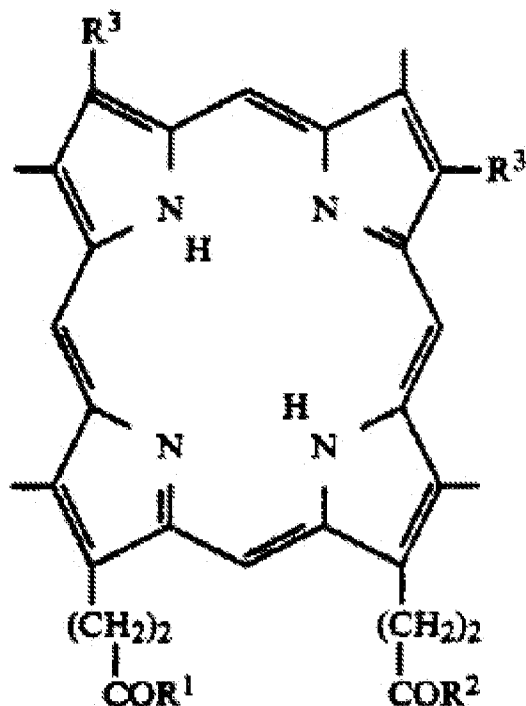
that describes over 10^{107} compounds (Robinson) and arrive at mesoporphyrin-containing compounds, as instantly claimed. It should also be noted that in the rat experiment discussed in Drummond, chromium protoporphyrin was found to be the most effective compound (see Table 2 at page 89 of Drummond).

The Examiner also states that “Robinson teaches that one of the preferred metal ions complexed to the core is Tin (page 32, paragraph 183; page 45 claim 1)...”² This portion of Robinson reads “For the use of the agents according to the invention for photodynamic therapy, the porphyrin or azaporphyrin should be metal free, i.e., $M=2H$, or should have coordinated photoactive metals, preferred examples of which include zinc, indium, gallium, tin, germanium, palladium, platinum, aluminum, silicon, ruthenium, yttrium, ytterbium, magnesium, lutetium, and cadmium.” Robinson indicates sixteen choices here (the fifteen elements and the metal-free porphyrin or azaporphyrin), and does not indicate which of the over 10^{107} “agents” should be used with these metals. Thus, Robinson has just increased the size of his genus by an order of magnitude, and again, the secondary reference Drummond does not provide any reason to select mesoporphyrins as instantly claimed.

For the reasons outlined above, the Applicants respectfully request withdrawal of the rejection of claims 2-5, 8-10, 22, 29-30 and 34-37 over Robinson, Drummond, and Bettelheim.

The Niedballa reference does not disclose a method for making mesoporphyrins. Niedballa discloses a structure of the form:

² See page 4, lines 6-7 of the September 10, 2007 Office Action.



where “each R^3 independently means the radical $-\text{CH}(R^{1'})\text{CH}_3$ or $-\text{CH}_2\text{CH}_2R^{1'}$, wherein $R^{1'}$ is an R^1 group provided that R^1 , R^2 and $R^{1'}$ do not simultaneously stand for the hydroxy group,” and “ R^1 and R^2 each independently mean an OH or $(\text{NH})_x\text{-[Q-(NH)}_y\text{]}_w\text{-W}$ group.” See column 3, lines 1-15; column 4, lines 60-64, and column 3, lines 18-20. Thus, the R^3 groups must be either $-\text{CH}(\text{OH})\text{CH}_3$, $-\text{CH}((\text{NH})_x\text{-[Q-(NH)}_y\text{]}_w\text{-W})\text{-CH}_3$, $-\text{CH}_2\text{CH}_2\text{OH}$, or $-\text{CH}_2\text{CH}_2\text{-(NH)}_x\text{-[Q-(NH)}_y\text{]}_w\text{-W}$. None of these possibilities will result in mesoporphyrin. Further, none of the reactions cited by the Examiner at column 11, lines 3-7 of Niedballa (hydrogenations, esterifications, oxidations, etherifications and alkylations) will transform these compounds into mesoporphyrin. Thus, Niedballa does not disclose methods for making tin mesoporphyrins complexed with amino acids.

Applicants therefore contend that the methods of claims 11-20 are not obvious in view of Niedballa, and respectfully request withdrawal of this rejection.

Clarification

In the response filed June 8, 2007, the undersigned agent made the following statement: “Robinson mentions fifteen metals in this list, and also includes the metal-free porphyrin as an option.” The elements in question—zinc, indium, gallium, tin, germanium, palladium, platinum, aluminum, silicon, ruthenium, yttrium, ytterbium, magnesium, lutetium, and cadmium—include some non-metallic compounds, such as silicon and germanium, and the lanthanide lutetium, in addition to metals. The undersigned agent regrets any confusion caused by this inaccurate statement.

Notwithstanding the classification of the particular elements listed, however, the general point that Robinson mentions sixteen alternatives (the fifteen elements above, plus the metal-free porphyrin) remains valid.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 606952000500. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: October 31, 2007

Respectfully submitted,

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